

## CLAIMS

What is claimed is:

1        1. A method for processing an output signal from one of a first  
2 communication system operating in a first frequency range pursuant to a first protocol or  
3 a second communication system operating in a second frequency range pursuant to a  
4 second protocol, wherein the output signal is comprised of a number of data packets, the  
5 method comprising:

6            receiving the output signal at a microcontroller unit;

7            identifying whether the first system operating in the first frequency range or  
8            second communication system operating in the second frequency  
9            range sent the output signal based on information included in the data  
10            packets; and

11            implementing the protocol that corresponds to the identified communication  
12            system, wherein in response to identifying the first communication  
13            system, the first protocol is implemented, and in response to  
14            identifying the second communication system, the second protocol is  
15            implemented.

1        2. The method of claim 1 wherein the output signal is one of a baseband  
2 signal and a broadband signal.

1        3. The method of claim 1 wherein the first communication system operates  
2 in a frequency band ranging from about 100 KHz to about 1 GHz.

1        4. The method of claim 1 wherein the first communication system operates  
2 in a frequency band ranging from about 26 MHz to about 28 MHz, or from about 800  
3 MHz to about 1 GHz.

1        5. The method of claim 1 wherein the second communication system  
2 operates in a frequency band ranging from about 1 GHz to about 10 GHz.

1       6. The method of claim 1 wherein the second communication system  
2 operates in a frequency band ranging from about 1.8 GHz to about 2.0 GHz, or from  
3 about 2 GHz to about 4 GHz.

1       7. The method of claim 1 wherein the microcontroller unit has a first process  
2 for detecting and processing an output signal from the first communication system, and a  
3 second process for detecting and processing an output signal from the second  
4 communication system.

1       8. The method of claim 1 further comprising:

2           decoding a set of MAC information associated with the output signal.

1       9. The method of claim 1 further comprising:

2           decoding and formatting data associated with the output signal.

1       10. The method of claim 1 further comprising:

2           verifying data associated with the output signal is valid; and  
3           responsive to the data being valid, transmitting the data to a data port that is  
4           coupled to the microcontroller unit.

1       11. A method for processing a first output signal from a first communication  
2 system and a second output signal from a second communication system, wherein the  
3 second communication system has a microcontroller unit having a first process for  
4 detecting and processing the second output signal, wherein the first and second output  
5 signals are comprised of a number of data packets, the method comprising:

6           providing a second process in the microcontroller unit for detecting and  
7           processing the first output signal from the first communication system;

8           with the second process, detecting the first output signal from the first  
9           communication system; and

10           processing the first output signal pursuant to the second process in response to  
11           detecting the first output signal from the first communication system.

1           12. The method of claim 11 wherein the first and second output signals are  
2 each one of a baseband signal and a broadband signal.

1           13. The method of claim 11 wherein the first communication system operates  
2 in a frequency band ranging from about 100 KHz to about 1 GHz.

1           14. The method of claim 11 wherein the first communication system operates  
2 in a frequency band ranging from about 26 MHz to about 28 MHz, or from about 800  
3 MHz to about 1 GHz.

1           15. The method of claim 11 wherein the second communication system  
2 operates in a frequency band ranging from about 1 GHz to about 10 GHz.

1           16. The method of claim 11 wherein the second communication system  
2 operates in a frequency band ranging from about 1.8 GHz to about 2.0 GHz, or from  
3 about 2 GHz to about 4 GHz.

1           17. The method of claim 11 wherein the first and second processes of the  
2 microcontroller unit can be implemented by software, firmware, hardware, or any  
3 combination thereof

1           18. The method of claim 11 wherein the first and second communication  
2 systems are wireless communication systems.

1           19. A system for processing an output signal from one of a first  
2 communication system operating in a first frequency range pursuant to a first protocol or  
3 a second communication system operating in a second frequency range pursuant to a  
4 second protocol, wherein the output signal is comprised of a number of data packets, the  
5 system comprising:

6           a microcontroller unit for receiving the output signal, wherein the  
7 microcontroller unit performs steps comprising:

8           identifying whether the first system operating in the first frequency  
9 range or second communication system operating in the

10 second frequency range sent the output signal based on  
11 information included in the data packets; and

12 implementing the protocol that corresponds to the identified  
13 communication system, wherein in response to identifying  
14 the first communication system, the first protocol is  
15 implemented, and in response to identifying the second  
16 communication system, the second protocol is  
17 implemented.

*SUBPART*

1 20. The method of claim 19 wherein the microcontroller unit has a memory  
2 that is configured to receive the output signal.

1 21. The method of claim 20 wherein the memory of the microcontroller unit  
2 has a first section and a second section, wherein the first section has a first process for  
3 detecting and processing an output signal from the first communication system, and the  
4 second section has a second process for detecting and processing an output signal from  
5 the second communication system.

1 22. The system of claim 19, wherein the output signal is one of a baseband  
2 signal and a broadband signal.

1 23. The system of claim 19 wherein the first communication system operates  
2 in a frequency band ranging from about 100 KHz to about 1 GHz.

1 24. The system of claim 19 wherein the first communication system operates  
2 in a frequency band ranging from about 26 MHz to about 28 MHz, or from about 800  
3 MHz to about 1 GHz.

*SUBPART*

1 25. The system of claim 19 wherein the second communication system  
2 operates in a frequency band ranging from about 1 GHz to about 10 GHz.

1 26. The system of claim 19 wherein the second communication system  
2 operates in a frequency band ranging from about 1.8 GHz to about 2.0 GHz, or from  
3 about 2 GHz to about 4 GHz.

*Subj*

1 27. The system of claim 19 further comprising:  
2 decoding a set of MAC information associated with the output signal.

1 28. The system of claim 19 further comprising:  
2 decoding and formatting data associated with the output signal.

1 29. The system of claim 19 further comprising:  
2 verifying data associated with the output signal is valid; and  
3 responsive to the data being valid, transmitting the data to a data port that is  
4 coupled to the microcontroller unit.

1 30. The system of claim 19 wherein the step of identifying and implementing  
2 can be implemented by software, firmware, hardware, or any combination thereof.

1 31. The system of claim 19 wherein the first and second communication  
2 systems are wireless communication systems.

1 32. The system of claim 19 wherein the microcontroller unit is a component of  
2 one of the first communication system and the second communication system.

1 33. A computer readable medium comprising a plurality of instructions, which  
2 when executed by a microcontroller unit, cause the microcontroller unit to perform the  
3 steps of:  
4 identifying whether a first communication system operating in a first  
5 frequency range or a second communication system operating in a second  
6 frequency range sent an output signal received by the  
7 microcontroller unit, wherein the identifying is based on information  
8 included in data packets comprising the output signal; and  
9 implementing a protocol that corresponds to the identified communication  
10 system, wherein in response to identifying the first communication

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system, a first protocol is implemented, and in response to identifying the second communication system, a second protocol is implemented.

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11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100